

SYSTEM AND METHOD FOR GENERATING ELECTROMAGNETIC FIELDS OF VARYING SHAPE BASED ON A DESIRED TARGET

ABSTRACT OF THE DISCLOSURE

A system for ablating tissue using interferential electromagnetic fields, comprises tumor shape information; radiation tip shape and position information; a mathematical model for computing first frequency and phase information, second frequency and phase information, and mixing information based on the tumor shape information and on the radiation tip shape and position information. The system further comprises a first generator mechanism for generating a first tone based on the first frequency information and on the first phase information; a second generator mechanism for generating a second tone based on the second frequency information and on the second phase information; a mixer for mixing the first and second tones based on the mixing information; and a radiation tip for generating an interferential electromagnetic field pattern based on the first and second tones. The radiation tip may include radiation coils affixed to the distal end of a conduction member. The conduction member may include a set of nesting conductors for transmitting current to the radiation coils within the radiation tip, the current being selected based on the interferential electromagnetic field pattern desired.